

Myocardial infarction in a patient with a single coronary artery

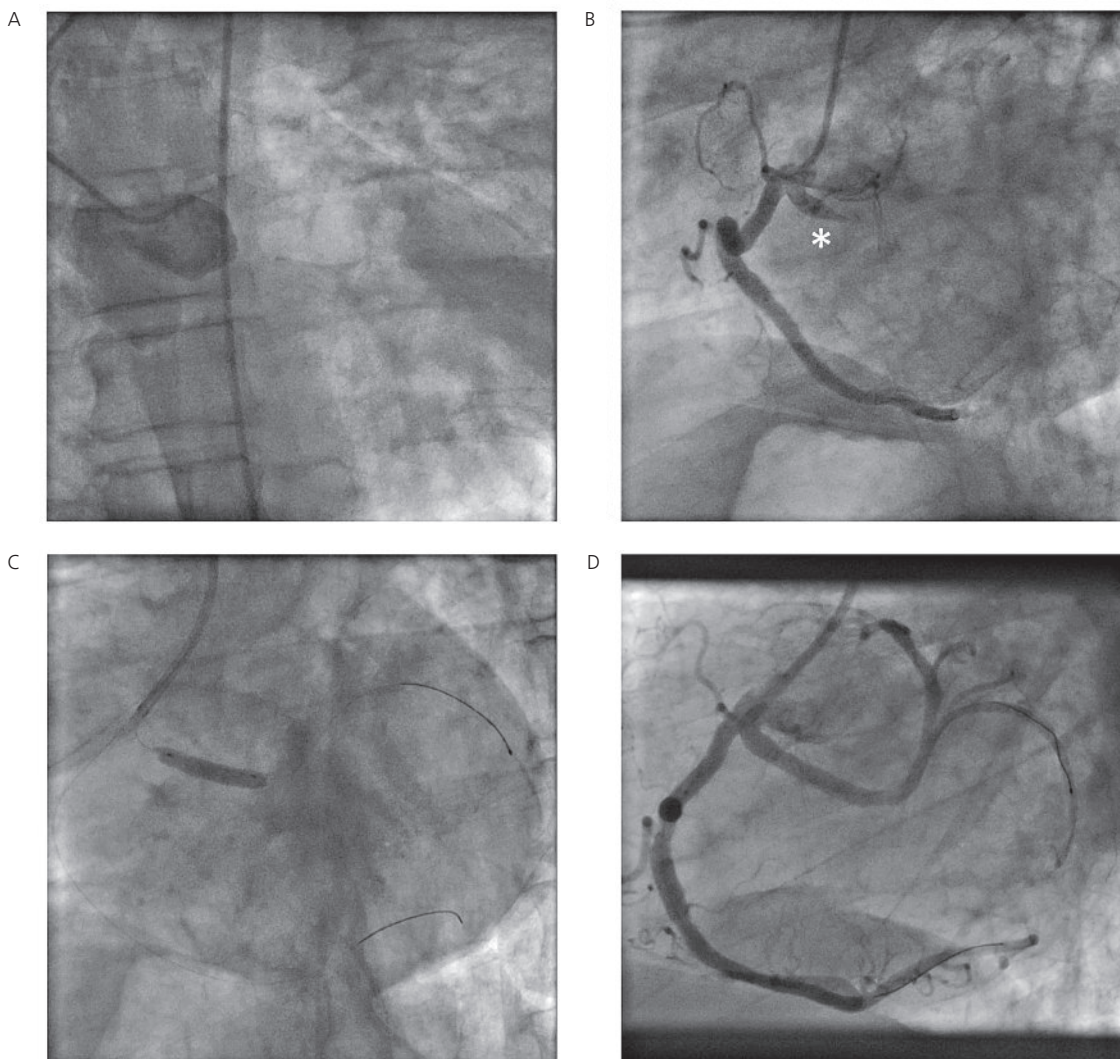
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A 56-year-old male patient was admitted because of ST-elevation myocardial infarction (STEMI) with ST-elevations in lead I and aVL. The emergent coronary an-

giography did not show any vessel originating from the left coronary sinus (panel A) but a single coronary artery originating from the right coronary sinus (panel B). The proximal left coronary artery (LCA) was occluded.



Figure

Panel A: Absent artery in the left coronary sinus. Panel B: Injection into the right coronary sinus showing a single coronary artery with occlusion of proximal LCA (*). Panel C: PCI/stenting of occluded proximal LCA. Panel D: Post PCI result with TIMI 3 flow.

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During the procedure, several episodes of ventricular tachycardia/ventricular fibrillation occurred and the patient developed severe haemodynamic impairment and pulmonary oedema. Therefore, a percutaneous left ventricular assist device (Impella Recover®) was implanted. Percutaneous coronary intervention (PCI) and stenting of the LCA (Panel C and D) with a bare metal stent (Prokinetic®) was performed. After PCI and three days of assist device support, the patient was stable and left ventricular ejection fraction improved after discharge from 30% to 44%.

Anomalous origin of the left coronary artery from the right coronary sinus as a single coronary artery is a rare coronary anomaly, particularly in the absence of other congenital heart diseases. It is reported in about 0.15% of coronary angiographies [1, 2]. Coronary segments with an abnormal course are as vulnerable to atherosclerosis as normal segments. First clinical symptoms of coronary artery abnormalities may be anginal chest pain, acute myocardial infarction, syncope or

sudden death. However, due to the unusual course of the coronary artery, PCI might be technically challenging.

Echo loops (AVI video files) of the bedside echo showing severely impaired left ventricular function can be viewed on the website of “Cardiovascular Medicine” www.cardiovascmed.ch

Key words: Myocardial infarction; single coronary artery; coronary angiography; congenital heart disease

References

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